



## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2021-0263; Project Identifier AD-2020-01702-T; Amendment 39-21710; AD 2021-18-09]

RIN 2120-AA64

**Airworthiness Directives;** The Boeing Company Airplanes

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for all The Boeing Company Model 777 airplanes. This AD was prompted by a report that an operator found solid rivets with missing heads at the left buttock line 25 on the sloping pressure deck web. This AD requires doing a detailed inspection of the left- and right-side sloping pressure deck at certain stations for any damaged solid rivets, and applicable on-condition actions. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this final rule, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this service

information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0263.

### **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0263; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Luis Cortez, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: (206) 231-3958; email: [Luis.A.Cortez-Muniz@faa.gov](mailto:Luis.A.Cortez-Muniz@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all The Boeing Company Model 777 airplanes. The NPRM published in the *Federal Register* on April 9, 2021 (86 FR 18479). The NPRM was prompted by a report that an operator found solid rivets with missing heads at the left buttock line 25 on the sloping pressure deck web. In the NPRM, the FAA proposed to require doing a detailed inspection of the left- and right-side sloping pressure deck at certain stations for any damaged solid rivets, and applicable on-condition actions. The FAA is issuing this AD to address damaged or missing solid rivet heads on the sloping pressure deck web, which could result in loss of sloping pressure deck panels,

causing decompression and pressure loss, and loss of the hydraulic systems in the area for wheel brakes (both normal and alternate) and steering, and potentially leading to runway departure and adversely affecting the structural integrity of the airplane.

## **Discussion of Final Airworthiness Directive**

### **Comments**

The FAA received comments from four commenters, including Boeing, American Airlines (AA), FedEx, and United Airlines (UAL). The following presents the comments received on the NPRM and the FAA's response to each comment.

### **Request to Revise the On-Condition Actions Statement**

Boeing requested a revision to the on-condition actions statement in the third sentence of the "Related Service Information Under 1 CFR Part 51" paragraph of the NPRM. Boeing stated that the repetitive detailed inspections cover "two rows of fasteners common to the affected stiffener," instead of "two rows of blind fasteners and solid rivets common to the affected stiffener." Boeing commented that the blind fastener repair option is allowed only under Condition 2 of Boeing Alert Requirements Bulletin 777-53A0093 RB, dated November 24, 2020, which is limited to findings of a maximum of nine damaged rivets within the same stiffener. Boeing commented that the damage rivets must be within the same fastener row, and therefore, the compliance action does not allow for blind fasteners to be installed in both fastener rows of an affected stiffener. Boeing commented that the revised language improves clarity of the on-condition actions because it does not imply that blind fasteners can be installed in both fastener rows of an affected stiffener.

The FAA agrees to revise the on-condition actions statement in the "Related Service Information Under 1 CFR Part 51" paragraph of this final rule for the reasons provided above; the FAA has revised this final rule accordingly.

### **Request to Revise Cost of Compliance Paragraph**

Boeing requested a revision to the on-condition work-hours for replacing a blind fastener. Boeing stated that the blind fastener replacement does not require internal access, and therefore, the 328 work-hours can be reduced to 11 work-hours as noted in Boeing Information Notice 777-53A0093 IN 01, dated January 27, 2021.

The FAA agrees to revise the on-condition work-hours for replacing a blind fastener for the reason provided above; this final rule has been revised accordingly.

### **Request to Clarify the Applicability**

AA asked if the rivet problems specified in the NPRM affect any airplanes in the AA livery, particularly N-numbers (nose numbers) so it can keep better track on preflights.

For clarification, this AD does affect AA airplanes because its fleet includes Model 777-200 and -300ER airplanes. This AD applies to all Model 777-200, -200LR, -300, -300ER, and 777F airplanes, as specified in paragraph (c) of this AD. Since all Model 777 airplanes are affected, it is not necessary to identify airplanes by N-numbers. The FAA has not changed this AD in this regard.

### **Request to Revise the Compliance Time**

FedEx Express (FedEx) agreed with the intent of the proposed AD, but found the 16-month compliance time for the initial inspection does not align with its heavy maintenance visits and requested an extension. FedEx stated that its current heavy maintenance visits would be the suitable time to accomplish the actions in the proposed AD, and that accomplishing the initial inspection in the proposed AD may require performing special maintenance visits. FedEx commented that it currently has 26 Model 777F airplanes that have accumulated more than 32,000 flight hours, and therefore, will be required to accomplish the initial inspection within the 16-month initial compliance time.

FedEx also commented that since Boeing found the missing rivet heads from a retired Model 777-200 airplane, the current in-service Model 777 airplanes can operate with missing rivets without experiencing adverse structural complications since the issue was not discovered until after that airplane retired from service.

The FAA disagrees with the commenter's request to extend the initial compliance time. The FAA cannot assume that Model 777 airplanes can operate with missing rivet heads without experiencing adverse structural complications. The FAA determined that the compliance time, as proposed, represents the maximum interval of time allowable for the affected airplanes to continue to safely operate before the initial and repetitive inspections and on-condition actions are done. If the inspection interval were based on maintenance schedules, which vary among operators, there would be no assurance that the airplane would be inspected and repaired during that maximum interval. In addition, in developing an appropriate compliance time, the FAA coordinated with the manufacturer to provide a compliance time with an acceptable level of safety. However, under the provisions of paragraph (i) of this AD, the FAA will consider requests for approval of an extension of the compliance time, if sufficient data are submitted to substantiate that the change would provide an acceptable level of safety. The FAA has not changed this AD in this regard.

#### **Request to Clarify Required Service Information**

FedEx requested that the FAA revise note 1 to paragraph (g) in the proposed AD to clarify that the proposed AD requires accomplishment of the actions only specified in Boeing Alert Requirements Bulletin 777-53A0093 RB, dated November 24, 2020. FedEx stated that note 1 does not clearly distinguish the required actions from the guidance service information for accomplishing the actions in the proposed AD.

The FAA disagrees with the commenter's request to change the note. For clarification, paragraph (g) of this AD states the required actions for applicable airplanes,

and only specifies to do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Requirements Bulletin 777-53A0093 RB, dated November 24, 2020. The FAA clearly states that note 1 to paragraph (g) of this AD is guidance and Boeing Alert Service Bulletin 777-53A0093, dated November 24, 2020, is only referred to in that note. The FAA has not changed this AD in this regard.

### **Request to Clarify Repair Instructions**

UAL indicated support for the NPRM, but requested clarification as to what to do if a Condition 4 is found in one stiffener and a Condition 3 is found in another stiffener as referenced in Boeing Alert Service Bulletin 777-53A0093, dated November 24, 2020. UAL stated that Condition 4 requires operators to contact Boeing and request repair instructions and to do the repair if any damaged rivet is found on both fastener rows within the same stiffener.

In addition, UAL requested the following clarifications.

- When contacting Boeing, should operators provide all details of affected stiffeners regardless of the condition identified in Boeing Alert Service Bulletin 777-53A0093, dated November 24, 2020? UAL commented that Boeing Alert Service Bulletin 777-53A0093, dated November 24, 2020, appears to request details associated with a specific stiffener only.

- Where a Condition 4 discrepancy is present, is it acceptable to continue with the repair of an adjacent Condition 3 stiffener discrepancy or is further manufacturer approval required?

UAL stated that it assumes that the conservative approach would be for the operator to provide all details of affected stiffeners to the manufacturer and then the manufacturer will provide approval to repair both Conditions 3 and 4, as referenced in Boeing Alert Service Bulletin 777-53A0093, dated November 24, 2020. UAL asserted that clarification will help operators determine which information is required by the

manufacturer to make a repair assessment, and it will also provide clarification as to what to do in the event of a parallel process involving both Condition 3 and Condition 4 repair.

The FAA provides the following clarification for the commenter. This AD requires operators to use Boeing Alert Requirements Bulletin 777-53A0093 RB, dated November 24, 2020, to perform the actions required in this AD. Boeing Alert Service Bulletin 777-53A0093, dated November 24, 2020, is for guidance only. Boeing Alert Requirements Bulletin 777-53A0093 RB, dated November 24, 2020, does not specify any limitations on a Condition 3 repair based on any conditions found on another stiffener. When a Condition 3 is found, the FAA finds no issues with continuing with the Condition 3 repair of replacing all solid rivets even in the event a Condition 4 is found in an adjacent stiffener. Regarding the question on the details to provide to Boeing for a repair, as specified in Note 4. of 5.A., “General Information,” of Boeing Alert Requirements Bulletin 777-53A0093 RB, dated November 24, 2020, operators can refer to Boeing Service Letter 777-SL-51-013, Damage Reporting and Repair Plan/Design Guidelines, which describes what information must be provided to Boeing before a structural repair can be provided. The structural repair must be approved by the FAA or the Boeing Company Organization Designation Authorization (ODA) as specified in paragraph (h)(2) of this AD. The FAA has not revised this AD in this regard.

## **Conclusion**

The FAA reviewed the relevant data, considered any comments received, and determined that air safety requires adopting this AD as proposed. Except for minor editorial changes, and any other changes described previously, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

## Related Service Information under 1 CFR Part 51

The FAA reviewed Boeing Alert Requirements Bulletin 777-53A0093 RB, dated November 24, 2020. This service information specifies procedures for doing a detailed inspection of the left- and right-side sloping pressure deck from station (STA) 1245 to STA 1287 for any damaged (i.e., missing solid rivet heads, cracking or deformation of the solid rivet, or gaps between the solid rivet head and the sloping pressure deck surface) solid rivets, and applicable on-condition actions. On-condition actions include repeating the detailed inspection of the left-and right-side sloping pressure deck from STA 1245 to STA 1287 for any damaged solid rivet; repetitive detailed inspections of two rows of fasteners common to the affected stiffener for any damaged solid rivet or damaged blind fastener; replacing solid rivets or blind fasteners; and repair. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

### Costs of Compliance

The FAA estimates that this AD affects 224 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated costs				
Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Detailed inspections	Up to 384 work-hours X \$85 per hour = Up to \$32,640	\$0	Up to \$32,640	Up to \$7,311,360

The FAA estimates the following costs to do any necessary replacements or inspections that would be required based on the results of the inspection. The agency has no way of determining the number of aircraft that might need these replacements or inspections:



### On-condition costs

Action	Labor cost	Parts cost	Cost per product
Replacement (solid fastener)	338 work-hours X \$85 per hour = \$28,730	Up to \$3,200	Up to \$31,930
Replacement (blind fastener)	11 work-hour X \$85 per hour = \$935	Up to \$450	Up to \$1,385
Repetitive inspections of fastener rows	326 work-hours X \$85 per hour = \$27,710 per inspection cycle	\$0 per inspection cycle	\$27,710 per inspection cycle

The FAA has received no definitive data on which to base the cost estimates for the on-condition repairs specified in this AD.

### Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **The Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**2021-18-09 The Boeing Company:** Amendment 39-21710; Docket No. FAA-2021-0263; Project Identifier AD-2020-01702-T.

#### **(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to all The Boeing Company Model 777-200, -200LR, -300, -300ER, and 777F airplanes, certificated in any category.

#### **(d) Subject**

Air Transport Association (ATA) of America Code 53, Fuselage.

**(e) Unsafe Condition**

This AD was prompted by a report that an operator found solid rivets with missing heads at the left buttock line 25 on the sloping pressure deck web. The FAA is issuing this AD to address damaged or missing solid rivet heads on the sloping pressure deck web, which could result in loss of sloping pressure deck panels, causing decompression and pressure loss, and loss of the hydraulic systems in the area for wheel brakes (both normal and alternate) and steering, and potentially leading to runway departure and adversely affecting the structural integrity of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions**

Except as specified by paragraph (h) of this AD: At the applicable times specified in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 777-53A0093 RB, dated November 24, 2020, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Requirements Bulletin 777-53A0093 RB, dated November 24, 2020.

Note 1 to paragraph (g): Guidance for accomplishing the actions required by this AD can be found in Boeing Alert Service Bulletin 777-53A0093, dated November 24, 2020, which is referred to in Boeing Alert Requirements Bulletin 777-53A0093 RB, dated November 24, 2020.

**(h) Exceptions to Service Information Specifications**

(1) Where Boeing Alert Requirements Bulletin 777-53A0093 RB, dated November 24, 2020, uses the phrase “the original issue date of 777-53A0093 RB” or “the original issue date of Requirements Bulletin 777-53A0093 RB,” this AD requires using “the effective date of this AD,” except where Alert Requirements Bulletin 777-53A0093

RB, dated November 24, 2020, uses the phrase “the original issue date of Requirements Bulletin 777-53A0093 RB” in a note or flag note.

(2) Where Boeing Alert Requirements Bulletin 777-53A0093 RB, dated November 24, 2020, specifies contacting Boeing for repair instructions: This AD requires doing the repair using a method approved in accordance with the procedures specified in paragraph (i) of this AD.

**(i) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in Related Information. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

**(j) Related Information**

(1) For more information about this AD, contact Luis Cortez, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des

Moines, WA 98198; phone and fax: (206) 231-3958; email:

Luis.A.Cortez-Muniz@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (k)(3) and (4) of this AD.

**(k) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Boeing Alert Requirements Bulletin 777-53A0093 RB, dated November 24, 2020.

(ii) [Reserved]

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on August 25, 2021.

Gaetano A. Sciortino, Deputy Director for Strategic Initiatives,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

[FR Doc. 2021-20035 Filed: 9/16/2021 8:45 am; Publication Date: 9/17/2021]